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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,465

11/15/2005

Atakan Peker

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06/30/2008

KAUTH, POMEROY, PECK & BAILEY, LLP

P.O. BOX 19152

IRVINE, CA 92623

EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT

PAPER NUMBER

1793

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,465	<b>Applicant(s)</b> PEKER ET AL.	
	<b>Examiner</b> George P. Wyszomierski	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-10, 12-15 and 17-36 is/are pending in the application.
- 4a) Of the above claim(s) 21-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10, 12-15, and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. The amendment filed May 12, 2008 has been entered. Claims 1-5, 8-10, 12-15, and 17-36 are pending, with claims 21-35 withdrawn from consideration as directed to a non-elected invention.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8, 10, 14, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. (P.G. Pub.No. 2002/0162605).

Horton discloses dental implants made of a bulk-solidifying amorphous alloy and discloses an example of such an alloy having a composition within the limits as recited in instant claims 2, 3, and 15. This alloy has an elastic strain limit, fracture toughness, and hardness value within the ranges as recited in present claims 1, 4, 5 and 8. See paragraphs [0031] and [0032] and Table 1 of Horton. With respect to claim 14, note paragraph [0044] of Horton.

Horton does not specify the glass transition temperature as presently claimed, the hardness recited in claim 10 or the various features recited in claims 17-20. Horton also does not describe prior art articles in the form of a "replication of at least one surface feature of at least one tooth." However,

a) With respect to the hardness and glass transition temperature, the examiner's position is that these are material properties of a given amorphous alloy composition, and Horton paragraph [0032] indicates that a large range of specific compositions may be used in the

Horton procedure. One skilled in the art would vary the composition used by Horton within the constraints set forth in that reference, and some of the compositions are likely to possess the hardness and transition temperatures as presently claimed.

b) With regard to claims 17 and 18, one of skill in the dental arts would naturally want to employ a biocompatible coating on a dental prosthesis, at the very least for aesthetic purposes, i.e. to match the color of a prosthesis to that of a natural tooth to the maximum extent practical. With regard to claim 18, this claim recites nothing more than common fillers use in cement and therefore does not patentably distinguish the invention over the prior art.

With respect to claims 19 and 20 and the requirement of a replication of a surface feature of a tooth, the examiner submits that the dental implants disclosed in paragraph [0010] of Horton would, in any practical application of the Horton reference, be of a shape that replicates a natural tooth. These implants will in many cases be of the dimensions as recited in claim 19, and crowns, bridges and caps as recited in claim 20 are nothing more than very commonly used types of dental implants.

Thus, a prima facie case of obviousness is established between the disclosure of Horton et al. and the presently claimed invention.

4. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al., as above, in view of Lin et al. (U.S. Patent 5,735,975).

Paragraph [0046] of Horton indicates that various iron-containing materials are within the scope of the Horton disclosure. Also, paragraph [0032] of Horton refers specifically to the Lin patent, in which the Abstract thereof indicates that various iron-containing materials are within the scope of the Lin patent. Lin further indicates that Al is optional, i.e. it can be replaced by Zn.

Thus, the combined disclosures of Horton et al. and Lin et al. would have taught the invention as claimed to one of ordinary skill in the art.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. in view of WIPO Publication 00/68469.

Horton does not disclose the precipitates as presently claimed. The WIPO '469 disclosure indicates that it was known in the art, at the time of the invention, to create ductile metallic crystalline phase precipitates in amorphous metal matrices. Particularly, WIPO '849 discloses such precipitates in Zr-base bulk metallic glass matrices, i.e. the same materials as discussed by Horton. Thus, the combination of Horton et al. and the WIPO '469 disclosure would have rendered the claimed invention obvious to one of ordinary skill in the art.

6. Claims 1-5, 8-10, 12-15, and 17-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 10/524954.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant claims and the '954 claims are directed to bulk solidifying amorphous alloys having certain compositions and properties. Claims 7-12 and 14-19 of the '954 application are virtually identical to instant claims 2-5, 8, 9, 13-15, 17 and 19 respectively. Claim 13 of the '954 application is analogous to instant claim 12. Instant claim 10 merely recites properties which would easily be achieved by one skilled in the art by varying the precise composition of the prior art materials within the constraints as recited in, e.g. '954 claims 2, 3 and 9. Instant claim 18 defines nothing more than conventional fillers that would be used in conjunction with the cement of '954 claim 18. While the '954 claims do not recite the phrase

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"replication of at least one surface feature of at least one tooth" as required by the instant claims or the "crown, a bridge or a cap" as recited in instant claim 20, the examiner's position is that such terminology falls within the scope of the "medical implant for placement into a specific implant region within a biological organism" recited in '954 claim 1. Thus, no patentable distinction is seen between the articles defined in the instant claims and those defined in the claims of the '954 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. In a response filed May 12, 2008, Applicant alleges that the particular combination of properties as recited in claim 1 as amended, together with the requirement of a replication of at least one surface feature of a tooth distinguishes the

claimed invention from the prior art, i.e. that the disclosure of Horton would not have led one of skill in the art toward particular amorphous alloys having a shape and properties as presently claimed. Applicant's arguments have been carefully considered, but are not persuasive of patentability because:

a) Horton paragraph [0010] specifically discloses dental implants, and it would be incumbent upon one of skill in the art of dental implants to match the qualities of a natural tooth to the extent practical. This would include not only the shape of a tooth, but also properties such as hardness, rate of thermal expansion, and toughness.

b) To at least some degree, Horton discloses an exemplary embodiment that matches several of the properties defined in the instant claims, as noted in the rejection supra. Horton further suggests that one refer to the Lin '975 patent for specific compositions to be used in the manner of Horton. The examiner particularly notes that the present specification also points to the Lin '975 patent as disclosing exemplary material to be employed in the present invention; see page 4, line 15 of the present specification. In light of the fact that both the Horton reference and the present inventors appear to suggest using precisely the same compositions, it is unclear either what the difference would be between the actual materials used in the invention versus those of the prior art, either by way of composition or by way of any particular properties of the claimed invention.

Applicant further states, with respect to the obviousness-type double patenting rejection, that "Applicants will submit a terminal disclaimer upon receipt from the Examiner of an indication of allowable subject matter." As the present action is a final action, any response thereto should either include such a disclaimer or a convincing argument as to why one is not necessary.

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9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/George Wyszomierski/  
Primary Examiner  
Art Unit 1793

GPW  
June 24, 2008